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REMARKS

Claims 1, 7, 9-17, 19, 20, 31, 37, 43, 49, 55, 57, 61, 63, and 64 are pending.

Declaration

A new Declaration is attached to this paper, and is believed to comply with 37 CFR 1.67(a).

Specification

A new Abstract has been submitted that does not include phrases such as "means."

Double Patenting

It is proposed that similarities between claims 19 and 63 be revisited when these claims are found to be otherwise allowable.

Claim Objections

Claims 9, 10, 12 and 14-16 have been amended to make them depend from claim 1 only, and claim 7 has been similarly amended to depend only from claim 1 (because claims 2-4 were withdrawn in response to a restriction requirement).

Section 112, Second Paragraph

Claim 49, 55, 61 and 64 have been amended to correct an obvious typographical error (MCI rather than MRI).

Section 102 and Dorri (#168)

As understood, in Dorri (#168) coils 58 and 60 are shielding coils and are similar in this respect to shielding coils 18 and 40 in Fig. 1. As discussed in the paragraph bridging columns 4 and 5 in Dorri (#168), shielding coil 18 deflects a stray magnetic field "to be captured by the magnetizable first end wall 20" and shielding coil 40 "is disposed to counteract the undesirable 'spill-over' influence of the main superconductive coils." As understood, shielding coils 18 and 40 in Fig. 1, and shielding coils 58 and 60 in Fig. 2 do not generate the main magnetic field in the imaging volume but rather deal with stray fields outside the magnet assembly that generates the main magnetic field.

In contrast, the pending claims are directed to a magnet assembly that generates the main magnetic field of the imaging volume, and to the coils that generate the main magnetic field rather than to shielding coils.

Further, in Dorri (#168), as understood, the main (static) magnetic field is along a horizontal axis, and the coils are spaced from each other along the same horizontal axis. In contrast, in this application the main magnetic field is along a vertical axis. The two distinct sets of coils that create the field are spaced from each other in the vertical direction. One set of coils is above the patient space, the other set is below the patient space. No suggestion of such spacing between sets of coils could be found in Dorri (#168).

Accordingly, it is submitted that not all elements of independent claims 1, 19, 43, 49, and 63 are present in the Dorri (#168) reference, and thus not all elements of the dependent claims. It is respectfully submitted that the pending claims are allowable over Dorri(#168) at

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least for these reasons.

Section 102 and Dorri (#523)

As understood, in Dorri (#523) Fig. 1 the main magnetic field is along a horizontal axis, and the coils that generate the field are spaced from each other along the same horizontal axis. In contrast, this application pertains to a vertical field MRI, in which the coils of one set for the main magnetic field are above the patient space (the uniform field volume) and the coils for the other set are below the patient space.

The uniform magnetic field volume or region 40 in Fig. 1 of Dorri (#523) has a greater horizontal extent than the distance between coils 42 and 44. Therefore, even if one would think of the coils to the left as one set and those to the right as another, the uniform field region is not “between” those sets. It is respectfully submitted that the considerations relating to coils that encircle the uniform field volume, as in Dorri (#523) Fig. 1 are different from coils that are entirely above or entirely below the patient space.

Accordingly, it is respectfully submitted that not all elements of claims 1, 19, 43, 49, and 63 are present in Dorri (#523) at least for this reason.

Section 103 and Dorri (#168)

As understood, in Dorri (#168) describes a horizontal field MRI, not a vertical field system, and does not suggest a motivation to modify the vertical system into a horizontal one or describe how this could be done, if at all.

As earlier discussed, coils 58 and 60 in Dorri (#168) Fig. 2 are understood to be

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shielding coils, not coils that create the main (static) magnetic field. The coils that create the main field do not alternate in polarity in the appropriate projection. Nor are the coils in Dorri (#168) Fig. 2 in two sets that are spaced from each other in the vertical direction, with one set above the patient and the other below.

It is submitted that claims 17, 20, 55, 61 and 64 are not made obvious by Dorri (#168) at least for this reason.

Section 103 and Dorri (#523) In View of Ono, et al. re Claim 31

As understood, both Dorri (#523) and Ono, et al. propose horizontal field MRI systems, and neither reference suggests a motivation for a modification into a vertical field system, or disclose how this could be done, if at all.

As earlier noted, the uniform field region in Dorri (#523) extends horizontally over a greater distance than the spacing between coils 42 and 44, and in Ono, et al. the uniform volume also is encircled by coils. In contrast, in this application one set of coils is above the patient space and the other set is below the patient space. The patient space uniform field volume is not within any of the coils that generate the main magnetic field.

It is respectfully submitted that claim 31 is not made obvious by a permissible combination of Dorri (#523) and Ono, et al., free of reliance on hindsight, at least for these reasons.

The Commissioner is hereby authorized to charge any fees that may be required in connection with this amendment and to credit any overpayment to our Deposit Account No.

Kakugawa et al. S.N. 09/554,155
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03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Respectfully submitted,



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